

# PATENT COOPERATION TREATY

From the Japan Patent Office (INTERNATIONAL SEARCHING AUTHORITY)

# PCT

To: Agent of Applicant

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WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY  
(Implementing Regulation 40 bis)  
(PCT Rule 43bis.1)

Date of mailing  
(day/month/year) 21. 09. 2004

Applicant's or agent's file reference  
F556PCT

**FOR FURTHER ACTION**

See paragraph 2 below

International application No.  
PCT/JP2004/007175

International filing date (day/month/year)  
26. 05. 2004

Priority date (day/month/year)  
03. 06. 2003

International Patent Classification (IPC) Int. Cl<sup>7</sup> H01L 23/02, H03H 9/25

Applicant

Murata Manufacturing Co., Ltd.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☒ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220

3. For further details, see notes to Form PCT/ISA/220

Date of completion of this opinion

06. 09. 2004

Name and mailing address of the ISA/JP

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**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/JP2004/007175

**Box No. I      Basis of this opinion**

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.  
☐ This opinion has been established on the basis of a translation from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purpose of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material  
☐ a sequence listing  
☐ table(s) related to the sequence listing
  - b. format of material  
☐ in written format  
☐ in computer readable form
  - c. time of filing/furnishing  
☐ contained in the international application as filed.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/JP2004/007175

**Box No. V**      **Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Claims	1-5	YES
	Claims		NO
Inventive step (IS)	Claims	1-5	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-5	YES
	Claims		NO

**2. Citations and explanations:**

Document 1: JP 2002-170895 A (Kyocera Corporation), June 14, 2002

[Claim 1], [Claim 2], [0013] to [0022], and [0024]

Document 2: JP 7-50360 A (NGK Spark Plug Co., Ltd.), February 21, 1995

[Claim 1], [0011] and [0012], and [0018]

Document 3: JP 9-266263 A (Sumitomo Metal (SMI) Electronics Devices Inc.), October 7, 1997

[Claim 1] to [Claim 4]

Document 4: JP 2002-198761 A (Murata Manufacturing Co., Ltd.), July 12, 2002

[0048] to [0057]

Document 1 describes a technology relating to the technical field of a seam welding. In the description of the technology, when a metal frame 2 is brazed to an insulating base 1, the width W2 of the short side of the metal frame is set to be smaller than the width W1 of the long side of the metal frame.

In the technology described in Document 2, when widths of a metal layer (5) on which a solder layer is provided along each side of a ceramic plate (2) are represented by a width W1 of parts along vertical sides (3,3) and a width W2 of parts along horizontal sides (4,4), the relationship of  $W1 > W2$  is satisfied.

In the technology described in Document 3, a lid (1) for sealing an electronic component package has a rectangular shape and the lid (1) is bonded with a solder layer (9) via a metal underlayer (7). In this case, a width  $w_3$  of the metal underlayer at the short side part (13) is set to be smaller than a width  $w_2$  of the metal underlayer at the central part (12) of the long side.

In the technology described in Document 4, a frame-shaped metal layer (6i) surrounding interdigital transducers (3,4) is provided and the metal layer is connected to a ground potential.

**Claims 1 to 5**

The documents cited in the international search report neither describe nor suggest the structure wherein when the difference in expansion in the x direction between an element and a substrate is represented by  $Q_x$  and the difference in expansion in the y direction between the element and the substrate is represented by  $Q_y$ , in each of a first frame-shaped electrode, a second frame-shaped electrode, and a solder sealing frame, the width of a strip-shaped part extending in the direction in which the larger difference in expansion is generated between the differences  $Q_x$  and  $Q_y$  in expansion is smaller than the width of a strip-shaped part extending in the direction in which the smaller difference in expansion is generated between the differences  $Q_x$  and  $Q_y$  in expansion.

WRITTEN OPINION OF THE  
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International application No.  
PCT/JP2004/007175

Box No. VI Certain documents cited

1. Certain published documents (Rules 43bis.1 and 70.10)

Application No. Patent No.	Publication date (day/month/year)	Filing date (day/month/year)	Priority date (valid claim) (day/month/year)
JP2003-188294A "E, A"	04. 07. 2003	21. 12. 2001	

2. Non-written disclosures (Rules 43bis.1 and 70.9)

Kind of non-written disclosure	Date of non-written disclosure (day/month/year)	Date of written disclosure referring to non-written disclosure (day/month/year)